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MECHANISATION OF INDIGENOUS CRAFTS WITH OUTBOARD MOTORS IN TAMIL NADU - AN IMPACT STUDY*

Mechanisation of fishing in India during the last few decades has resulted in the enhancement of catches and thereby better income for the fishermen. As a part of this general process of mechanisation, indigenous crafts are being motorised with outboard engines in different maritime states of India including Tamil Nadu, leading to promising results. In this context, a study relating to the extent of mechanisation of catamarans in the districts of Kanyakumari and Thirunelveli of Tamil Nadu and their economy was carried out and a brief account is given below.

About 80 out of 1,848 catamarans in the region from Neerodi to Enayam Puthenthurai in Kanyakumari district and 10 out of 935 catamarans in Uvari and Periyathalai villages in Thirunelveli district are fitted with outboard motors (Table 1). All these units are fitted with Yamaha engines (model 8 B.K., 7 H.P.) costing about Rs. 10,300 during August–December period of 1981. The catamarans have 4 to 5 logs measuring about 25 feet length and cost about Rs. 5,000 per catamaran.

The number of catamarans fitted with outboard motors is very much less in Thirunelveli district and maximum in Vallavilai and Marthandanthurai of Kanyakumari district. The catamarans wih outboard motors in relation to total catamarans available in the villages are 8 per cent in Vallavilai, 12 per cent in Marthandanthurai and less than 3.5 per cent in other fishing centres.

In Thirunelveli district there does not seem to be much impact due to the motorisation of the catamarans. The motorised catamarans in Uvari and Periyathalai villages in this district operated for about a period of four months from October '81 to January '82. There is not much difference in the total catches of motorised and non-motorised catamarans in this area. It is reported by the fishermen here that when the wind is

Table 1. *Details of number of catamarans fitted with outboard engines in Kanyakumari-Thirunelveli coast*

Districts	Fishing centre/village	Total catamarans	No. of catamarans fitted with outboard motors
Kanyakumari	Neerodi	175	6
–do–	Vallavilai	385	30
–do–	Marthandanthurai	202	25
–do–	Thoothoor and Eraviputhenthurai	489	7
–do–	Enayam Puthenthurai	597	12
Thirunelveli	Uvari	505	7
–do–	Periyathalai	430	3

*Prepared by R. Sathiadhas,

favourable the non-mechanised catamarans are also able to move by using sails as fast as the catamarans fitted with outboard motors. Hence the fishermen of this area keep outboard motors in their units as reserve and utilise the same whenever the wind is unfavourable The gears used by the fishermen of this area are drift nets and hooks and lines. The composition of catch is *Scomberomorus* sp, *Chirocentrus, Lactarius, Sciaena* and *Arius.*

In Kanyakumari region, the gear used in motorised units is hooks and lines with the aid of artificial baits. Three to five persons go for fishing in each unit. Normally they leave the shore between 3 and 4 a.m. and return to the shore between 6 and 8 p.m. The fishing season for these mechanised catamarans extend from November to March. They mainly go to fish for cuttle fishes, *Sepia* spp, which realise very good price due to export market. Along with *Sepia* spp. they also get good quantities of tunas, serranids, lutjanids, perches and balistids. The non-motorised catamarans of this area operate throughout the year using hooks and lines with scoop nets. The man power employed for this operation is 2 in each unit. They leave the shore between 5 and 6 a.m. and return between 2 and 4p.m. the duration of actual fishing being only 3 to 5 horus. The speciewise average catch per trip both for motoiised and non-motorised catamarans with price per kg to the landing centre is given in Table 2.

Table 2. *Average catch per catamaran trip and price rate at the landing centres in Kanyakumari region (November* 1981-*March* 1982*)*

Sl. No.	Name of fish/ species	Average catch per trip per catamaran unit (kg) Motorised	Non-motorised	Price rate at the landing centre Rs/kg
1.	*Sepia* sp	15	1	17.00
2.	*Pristipomoides types*	18	—	4.00
3.	*Epinephelus tauvina*	7	—	4.00
4.	*Cephalopholis sonnerati*	5	1	4.00
5.	*Odonus niger*	12	5	1.50
6.	*Sufflamen capistratus*	3	2	1.50
7.	Lutjanids	5	—	4.00
8.	*Coryphaena*	5	1	4.00
9.	Tuna	5	—	5.00
10.	*Caranx* sp.	3	1	5.00
11.	*Scomberomorus sp*	—	4	8.00
12.	*Rachycentron sp.*	—	1	5.00
13.	*Tylosurus* spp.	—	1	4.00
14.	*Lethrinus* spp.	3	1	4.00
15.	Misc.	10	3	2.00

The gross returns by the motorised catamarans range from Rs. 100 to 2,000 per trip, averaging to Rs. 500. Each crew is given an allowance of Rs. 5 per trip in addition to his share. The income after deducting the fuel expenditure and allowance to the crew members is shared 50 per cent each among the owner of the unit and the crew members. The share received by the crew members is equally divided among themselves. The number of actual fishing days ranged from 20 to 25 days per month during this period and the average share received by each crew member works out to Rs. 37 per trip.

The fuel requirement per trip for the mechanised units is about 20 to 30 litres of kerosene and 1.5 to 3 litres of petrol. The fishermen used to take with them additional kerosene in barrels. During November 81-March '82 procurement of kerosene for their units became a great problem. There was no special allotments of kerosene for these units and the fishermen had to rely mostly on private traders who charged about Rs. 3 per litre which is 50 per cent higher than the official price. Repairing and maintenance charges of the outboard motors amount to about Rs. 250 per month. The average operational expenditure which includes fuel, repairing and maintenance of the engine and allowance to the crew members would be Rs. 130 per trip.

The gross fishing income of a non-motorised catamaran operating with hooks and lines average about Rs. 90 per trip in Kanyakumari region. This income is divided into 3 equal shares—two shares to the crew and one to the owner of the unit.

Due to motorisation employment opportunity is doubled since the motorised catamaran requires 3 to 5 persons instead of only 2 for the non-motorised units. The increased mobility and the easy accessibility of the fishing ground for the motorised catamarans resulted in higher gross returns of almost 6 times as compared to the returns of catamarans without outboard engine. The wage earners of the motorised units earn about 30 per cent higher than those of the non-motorised units.

There is no marketing problem for the disposal of the fish. More than 80% of the catches that are landed in the late hours are utilised for drying and

curing, the rest preserved in ice and disposed off in the morning. It is learnt that no subsidy or institutional loan is issued to the fishermen for the purchase of outboard motors. Most of the fishermen report that they have recovered more than 70 per cent of the capital investment during the short span of operation for five months.

The fishermen in Kanyakumari district operated these units in the respective centres only from November '81 to March '82 and after-wards all the units have migrated to Sakthikulangara area of Kerala coast for fishing. Their migration to the Kerala coast is mainly due to the roughness of sea and decline in the catch of *Sepia* spp. which fetches high prices. They report that their mechanised catamarans will return to the respective centres during November 1982 when the cuttle fish fishery starts.

Due to lack of facilities for the repairing and servicing of the outboard motors in this area, the fishermen have to go all the way to Vizhinjam even for minor repair works. It is desirable to have more stations started where spare parts and servicing facilities are readily available especially keeping in view of the expected increase in the number of motorised catamarans. As already mentioned, fishermen have been experiencing difficulties in procuring kerosene oil at reasonable price and it is suggested that the State Government may take necessary steps for continuous supply of kerosene oil to the fishermen operating motorised catamarans.

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